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## MATERIAL SAFETY DATA SHEET (MSDS)

### FERROUS CHLORIDE (HYDRATE)

#### 1. Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Trade name : FERROUS CHLORIDE (HYDRATE)

Product code : F0098800500

Identification of the product : FERROUS CHLORIDE (HYDRATE) EXTRA PURE 98%  
 CAS No: 13478-10-9

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use : Industrial. For professional use only.

##### 1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM  
 Chaitanya Tower, 2nd Floor, Office # 206,  
 Siddharth Nagar, S.V. Road,  
 Goregaon (West), Mumbai - 400062,  
 Maharashtra, India.  
 Contact: +91 22 28725393 / 94 / 95  
 Email ID: info@suvchem.com/care@suvchem.com

##### 1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [ Office hours ]

#### 2. Hazards identification -DSD

##### 2.1. Classification of the substance or mixture

##### Classification EC 67/548 or EC 1999/45

Classification : Xn; R22  
 C; R34

##### Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Skin corrosion - Category 1B - Danger (CLP : Skin Corr. 1B) H314  
 Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315  
 Serious eye damage - Category 1 - Danger (CLP : Eye Dam. 1) H318  
 Acute toxicity, Oral - Category 4 - Warning (CLP : Acute Tox. 4) H302

##### 2.2. Label elements

##### Labelling EC 67/548 or EC 1999/45

**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**2. Hazards identification -DSD (continued)**

Symbol(s)



Symbol(s)

: Xn : Harmful

R Phrase(s)

 : R22 : Harmful if swallowed.  
 R34 : Causes burns.

S Phrase(s)

 : S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.  
 S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).

**Labelling Regulation EC 1272/2008 (CLP)**

Hazard pictograms



Signal words

: Danger

Hazard statements

 : H314 : Causes severe skin burns and eye damage.  
 H302 : Harmful if swallowed.  
 H315 : Causes skin irritation.

Precautionary statements

**• Prevention**

 : P280: Wear protective gloves, protective clothing, eye protection, face protection.  
 P260: Do not breathe dust, fume, gas, mist, vapours, spray.  
 P264: Wash thoroughly after handling.  
 P270: Do not eat, drink or smoke when using this product.

**• Response**

 : P302+P352: IF ON SKIN : Wash with plenty of soap and water.  
 P301+P330+P331: IF SWALLOWED : Rinse mouth. Do NOT induce vomiting.  
 P332+P313: If skin irritation occurs : Get medical advice.  
 P305+P351+P338: IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.  
 P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.  
 P363: Wash contaminated clothing before reuse.

**• Storage**

: P405: Store locked up.

**• Disposal considerations**

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

**2.3. Other hazards**

Other hazards

: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**3. Composition/information on ingredients**

**Substance / Preparation** : FERROUS CHLORIDE (HYDRATE) EXTRA PURE 98%

Substance.

Contains no other components or impurities which will influence the classification of the product.

**4. First aid measures**
**4.1. Description of first aid measures**

**Inhalation** : Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor.

**Skin contact** : Wash with plenty of soap and water. If skin irritation occurs : Specific treatment (see on this label). Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor.

**Eye contact** : Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or doctor. Remove contact lenses, if present and easy to do. Continue rinsing.

**Ingestion** : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. Call a POISON CENTER or doctor if you feel unwell.

**4.2. Most important symptoms and effects, both acute and delayed**

**Symptoms relating to use** : Swallowing a small quantity of this material will result in serious health hazard.  
Causes severe skin burns and eye damage.  
Causes skin irritation.

**4.3. Indication of any immediate medical attention and special treatment needed**

**General information** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**5. Fire-fighting measures**
**5.1. Extinguishing media**

**Suitable extinguishing media** : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

**Unsuitable extinguishing media** : Do not use a heavy water stream.

**Surrounding fires** : Use water spray or fog for cooling exposed containers.

**5.2. Special hazards arising from the substance or mixture**

**Hazardous combustion products** : Under fire conditions, hazardous fumes will be present.  
Thermal decomposition generates : Corrosive vapours.

**5.3. Advice for fire-fighters**

**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**5. Fire-fighting measures (continued)**

- Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.
- Special procedures** : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

**6. Accidental release measures**
**6.1. Personal precautions, protective equipment and emergency procedures**

- For emergency responders** : Equip cleanup crew with proper protection. Ventilate area.
- For non-emergency personnel** : Evacuate unnecessary personnel.

**6.2. Environmental precautions**

- Environmental precautions** : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

**6.3. Methods and material for containment and cleaning up**

- Clean up methods** : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

**6.4. Reference to other sections**

See section 8. Exposure controls/personal protection

**7. Handling and storage**
**7.1. Precautions for safe handling**

- Handling** : Do not eat, drink or smoke when using this product. Do not breathe dust, fume, gas, mist, vapours, spray. Wash contaminated clothing before reuse. Wash thoroughly after handling.
- Technical protective measures** : Provide good ventilation in process area to prevent formation of vapour.

**7.2. Conditions for safe storage, including any incompatibilities**

- Storage** : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.
- Storage regulation** : Comply with applicable regulations.
- Storage - away from** : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

**7.3. Specific end use(s)**

**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**7. Handling and storage (continued)**

Specific end use(s) : None.

**8. Exposure controls/personal protection**
**8.1. Exposure controls**

<b>Personal protection</b>	: Avoid all unnecessary exposure.
• <b>Respiratory protection</b>	: Wear approved mask.
• <b>Hand protection</b>	: Wear protective gloves.
• <b>Skin protection</b>	: Wear suitable protective clothing.
• <b>Eye protection</b>	: Chemical goggles or face shield.
• <b>Others</b>	: When using, do not eat, drink or smoke.

**8.2. Control parameters**

Occupational Exposure Limits : No data available.

**9. Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

<b>Physical state at 20 °C</b>	: Solid.
<b>Colour</b>	: Yellowish cream
<b>Odour</b>	: Odorless
<b>Odour threshold</b>	: No data available.
<b>pH value</b>	: Not applicable.
<b>Melting point [°C]</b>	: 105 - 110 °C
<b>Decomposition point [°C]</b>	: N/A
<b>Critical temperature [°C]</b>	: N/A
<b>Auto-ignition temperature [°C]</b>	: N/A
<b>Flammability (solid, gas)</b>	: N/A
<b>Flash point [°C]</b>	: N/A
<b>Boiling point [°C]</b>	: N/A
<b>Initial boiling point [°C]</b>	: N/A
<b>Final boiling point [°C]</b>	: N/A
<b>Evaporation rate</b>	: N/A
<b>Vapour pressure [20°C]</b>	: N/A
<b>Vapour pressure mm/Hg</b>	: 13.3 mm Hg at 693 °C
<b>Vapour density</b>	: N/A
<b>Density [g/cm3]</b>	: 1.93 g/cm3

**MATERIAL SAFETY DATA SHEET (MSDS)**
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**9. Physical and chemical properties (continued)**

Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: Soluble in water
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: 2.5 at 100 g/l at 20
Viscosity at 40°C [mm <sup>2</sup> /s]	: N/A

**9.2. Other information**

Explosive properties	: N/A
Explosion limits - upper [%]	: N/A
Explosion limits - lower [%]	: N/A
Oxidising properties	: No data available.

**10. Stability and reactivity**
**10.1. Reactivity**

Reactivity	: Not established.
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**10.2. Chemical stability**

Chemical stability	: Stable under recommended storage conditions.
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**10.3. Possibility of hazardous reactions**

Hazardous reactions	: Not established.
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**10.4. Conditions to avoid**

Conditions to avoid	: Direct sunlight. Extremely high or low temperatures.
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**10.5. Incompatible materials**

Materials to avoid	: Strong acids. Strong bases.
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**10.6. Hazardous decomposition products**

Hazardous decomposition products	: Fumes. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.
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**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**11. Toxicological information**
**11.1. Information on toxicological effects**
**Acute toxicity**

- Inhalation : Based on available data, the classification criteria are not met.
- Dermal : Based on available data, the classification criteria are not met.
- Ingestion : Harmful if swallowed.

**Corrosion**

- : Causes severe skin burns and eye damage.
- : Causes serious eye damage.

**Irritation**

- : Causes skin irritation.

**Sensitization**

- : Based on available data, the classification criteria are not met.

**Mutagenicity**

- : Based on available data, the classification criteria are not met.

**Carcinogenicity**

- : Based on available data, the classification criteria are not met.

**Toxic for reproduction**

- : Based on available data, the classification criteria are not met.

**STOT-single exposure**

- : Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

- : Based on available data, the classification criteria are not met.

**Aspiration hazard**

- : Based on available data, the classification criteria are not met.

**12. Ecological information**
**12.1. Toxicity**

- Toxicity information** : Not established.

**12.2. Persistence - degradability**

- Persistence - degradability** : Biodegradable.

**12.3. Bioaccumulative potential**

- Bioaccumulative potential** : Not established.

**12.4. Mobility in soil**

- Mobility in soil** : Not established.

**12.5. Results of PBT and vPvB assessment**

- Results of PBT and vPvB assessment** : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

**12.6. Other adverse effects**

- Environmental precautions** : Avoid release to the environment.



**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**13. Disposal considerations**
**13.1. Waste treatment methods**

**General** : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.  
 Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

**14. Transport information**
**14.1. Land transport (ADR-RID)**

**Proper shipping name** : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
**UN N°** : 3260  
**H.I. nr** : 80  
**ADR - Class** : 8  
**Labelling - Transport** : 8 : Corrosive substance.



**ADR - Classification code** : C2  
 C2  
**ADR - Group** : III  
**ADR - Packing instructions** : P002 R001 LP002  
**ADR - Limited Quantity** : 5 KG  
**ADR - Tunnel code**



: E : Passage forbidden through tunnels of category E.

**14.2. Sea transport (IMDG) [English only]**

**Proper shipping name** : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
**UN N°** : 3260  
**IMO-IMDG - Class or division** : 8 : Corrosive substance.  
**IMO-IMDG - Packing group** : III  
**IMO-IMDG - Packing instructions** : P002 LP02  
**IMO-IMDG - Limited quantities** : 5 kg  
**IMO-IMDG - Marine pollution** : No  
**EMS-Nr** : F-A S-B



**MATERIAL SAFETY DATA SHEET (MSDS)**
**FERROUS CHLORIDE (HYDRATE)**
**14. Transport information (continued)**
**14.3. Air transport (ICAO-IATA) [English only]**

Proper shipping name	: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
UN N°	: 3260
IATA - Class or division	: 8 : Corrosive substance.
IATA - Packing group	: III
IATA - Passenger and Cargo Aircraft	: ALLOWED
- Passenger and Cargo - Packing instruction	: 860
- Passenger and Cargo - Maximum Quantity/Packing	: 25 kg
IATA - Cargo only	: ALLOWED
- Cargo only - Packing instruction	: 864
- Cargo only - Maximum Quantity/Packing	: 100 kg
IATA - Limited Quantities	: 5 kg
ERG-Nr	: 8L

**15. Regulatory information**
**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Safety, health and environmental regulations/legislation specific for the substance or mixture	: Ensure all national/local regulations are observed.
REACH Restrictions - Annex XVII	: The components of this product are not subject to restrictions.
REACH Authorisation - Annex XIV	: The components of this product are not subject to authorization.

**15.2. Chemical Safety Assessment**

Chemical Safety Assessment	: It has not been carried out.
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**16. Other information**

Revision	: Revision - See : *
Abbreviations and acronyms	: PBT: persistent, bioaccumulative and toxic. vPvB: very persistent and very bioaccumulative
Sources of key data used	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
Further information	: None.

## MATERIAL SAFETY DATA SHEET (MSDS)

### FERROUS CHLORIDE (HYDRATE)

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

#### DISCLAIMER:

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